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ABSTRACT

This publication proposes a three-part program that combines English as a second language (ESL) and vocational considerations to move non-English speaking inmates from the ESL classroom through a sheltered vocational education classroom into the hands-on aspect of the carpentry trade. The first two sections present two requirements for the program--an ESL department and a vocational education program--and highlights the importance of the bilingual inmate vocational instructor (IVI). Section 3 lists the four parts of the program: beginner and intermediate ESL curricula that integrates phrases, vocabulary, and grammar; independent study from the program handbook in addition to regular ESL class assignments; regular student testing and advancement of qualified students into the sheltered classroom in the vocational building; and independent study along with movement into on-the-job training and full-time job status. Section 4 offers suggestions for interweaving ESL and vocational education. Section 5 offers considerations for the program designer. Other contents include a sample Traditional Independent Study Trades Program (TISTP) homework assignment; TISTP proposal; student contract; and student handbook. (YLB)

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ED 402 509

Transitional Independent-Study

Trades Program:

A Sheltered ESL Vocational Program for Prisons and Jails

Phyllis E. Rockwell

September, 1995

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ABSTRACT

Title: TRANSITIONAL INDEPENDENT-STUDY TRADES PROGRAM (TISTP)

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ABSTRACT: A three part program combining ESL and vocational education considerations, to move Nonspeaker-of-English inmates from the ESL classroom through a sheltered Vocational Education classroom, into the hands-on aspects of the carpentry trade.

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BACKGROUND AND RATIONALE

Education continually resurfaces as the one tried and true method of rehabilitation: The inmate who is well trained and/or educated makes the successful transition to the outside with less possibility of recidivism than one who returns to the outside unprepared, unskilled or uneducated. He is able to support himself and a family with less strain and worry about how he will survive when he has an adequate income. Factory or food service jobs do not provide the financial stability or satisfaction a steady income from a trade will provide. And, stability and job satisfaction are the underpinnings of a good parole plan.

Currently, U.S. prisons are facing a compelling need to provide a full range of educational possibilities for the NSE (non-speaker of English) population. A few inmates track on an academic course. The greatest number find success and satisfaction in the voctational fields.

For the institution squeezed between the inmate's rights to an education and too little funding to provide it, this program offers a method of economically assessing, combining and utilizing the resources which may currently be in place in a prison.

In addition to an open-minded staff and a pressing need by the state, what is necessary to this program is an ESL (English As A Second Language) department, and a Vocational Education department.

Interpreted as those "needs", the following goals were determined:

1. To increase the number of NSE (Non Speaker of English) inmates in the trades program.

2. To prepare NSE inmates for successful integration into the job market upon release.

3. To prepare students to work successfully in English.

4. To teach skills in job search and interviewing.

5. To upgrade math skills for effective use in the trades.

THE IMPORTANCE OF THE BILINGUAL LEAD INSTRUCTOR

Construction is usually the most poplular and in-demand of all the trades offered. The form and process that follows, however, can be adapted to any of the vocational areas with little change.

Routinely, inmate lead instructors are utilized to instruct new students on the job, on a 2/1 ratio. This is an adequate rate for English speakers, but too slow and restrictive to level off the disparity of NSE - to English speaking - students.

Identification of a bilingual inmate carpenter with patience, insight and teaching abilities is essential. In the standard 2/1 ratio, these capable lead carpenters are being underutilized. When this plan is implemented, it will be possible to increase the number of NSE students trained dramatically.

For the sake of brevity, further reference to these instructors will be as Inmate Vocational Instructor, or I.V.I.

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THE FORM AND CRITERIA OF THE PROGRAM

Part one: Beginner and Intermediate ESL curricula integrates phrases, vocabulary and grammar. This should not impact the ESL students who are not part of this program.

Part two: Students study independently from the program handbook. Study of this material is in addition to regular ESL class assignments, which must not be neglected, in order to stay in this program. (A mentor might be assigned to these students in the pods.)

Part three: At regular intervals, ESL staff tests students' knowledge of this material and advance qualified students AS A GROUP into the sheltered classroom in the vocational (voc) building.

Part four: Independent study in the pods continues, with one 1-1/2 hour a week class with the I.V.I. While still continuing their full-time student status, students move to on-the-job training at the end of the voc training portion. Moving to full-time job status in voc training is determined on an individual basis by the voc trainers, according to the student's adaptation to working in an English-speaking environment. At this time, the student has the option to discontinue ESL classes.

INTERWEAVING ESL AND VOCATIONAL EDUCATION

1. The I.V.I. and ESL staff should identify the extent to which ESL would need to be involved in teaching the voc portion. (Construction trades is divided into four consecutive parts: Roofer, Laborer, Rough Carpenter and Carpenter As a rule, by the time the I.V.I. has worked with his men through the Laborer category, they are usually functioning well enough in English to no longer need this sheltered teaching.)

2. The I.V.I. lists tool names, materials, phrases, directions and safety issues that must be taught. (All this material is recycled in the Rough Carpenter and Carpenter levels.)

3. The I.V.I. gathers glossaries, illustrative diagrams, pictures and any other materials he feels would bring reality to the classroom sessions. (An overhead projector is a valuable tool to plan for.)

4. The ESL content is identified and "backed out" of this material.

5. Again, that which is standard ESL class content is backed out. The remainder is designated the content of the independent study handbooks.

6. A special allotment of time in the ESL classroom for related mathematic problems should be arranged.

7. The material is again reviewed by the voc staff for changes or any material that might have been overlooked.

8. At this time the handbook may be assembled.

CONSIDERATIONS FOR THE PROGRAM DESIGNER

Unless the ESL teacher or program designer has had experience in the construction trades, the following considertions are strongly suggested.

1. Visit the construction yard at various times to get a feel for what is being accomplished there.

2. Be familiar with the products being built.

3. Note the stages of construction of each type of project.

4. Interview the teaching staff (at a convenient moment) for clarification and explanation.

5. Listen for terminology and phraseology that may be peculiar to your area.

6. Listen as if you were your students, and appreciate that terminology may be garbled and slurred due to the speed of the work. Be able to reproduce that in the class, and be certain that students can comprehend it at construction yard speed.

7. Interview the correctional officer(s) to determine where the physical boundaries are on the yard. Often they are NOT the fence, but offset from the fence by a considerable space. How are they designated? Find out what is accpetable/nonacceptable behaviour for inmates in this particular environment.

8. Working congenially with the staff is essential. Understand that the second most compelling responsibility for the staff are safe practices and safe use of tools and materials. Although the textbooks will list these practices, find out what is of special importance to the teaching staff. Students should be clear on these issues before they begin the construction yard experience.

9. Again, LISTEN LISTEN LISTEN and LOOK LOOK LOOK.

The following is written as a homework assignment. It came as a result of eavesdropping on the construction yard, and illustrates what is meant by LOOK and LISTEN.

TISTP HOMEWORK FOR OCTOBER 2

VOCABULARY:

VERBS			NOUNS
operate	adjust	common sense	tool belt
plug (in)	stand		plug
unplug	shrink		power panel
(turn it) ON	swell		safety guards
(turn it) OFF	equipment		

CAUTIONS AND WARNINGS

DANGER! WATCH OUT! CAREFUL!

Wear your safety glasses.

EMERGENCY

Emergency button

Use your dust mask. OR **Put on** your dust mask.

Put on your safety goggles.

Be very careful with_____ (a thing)

Be very careful doing_____ (an action)

Don't **stick your hand in** _____.

HOUSEKEEPING PHRASES

Clean up the floor.

Clean up the workbench.

Clean up the area.

Mop up the puddle. **Wipe up** the puddle.

MACHINE SAFETY WORDS AND PHRASES

ON **Turn it** on.

OFF **Turn it** off.

When you step away from the machine **make sure** it is OFF.

Don't **reach behind** the machine.

Use safety guards.

Unplug the machine.

Before you adjust the machine, **unplug** it.

MEASURING AND CUTTING

Cut it 54 3/8" **shy.** (a little less)
Cut it 73 13/16" **short.** (a little less)
Cut it 14 5/8 **strong.** (a little more)
Cut that about a 16th longer.
try it - see if it fits
Take that little bit off.
TOO MUCH NOT ENOUGH

GENERAL PHRASES

You are **supposed to**_____
This is **supposed to be**_____
screw up (a bad job)
If you don't know, ask the lead carpenter.
Make sure it's flush. **Make sure** it's level.
Don't go.... (verb). "Don't go bending that board."
All set? Ya got it?
Here ya go
You want to run the_____? (machine)
You don't have to_____. You don't need to_____.
I'm **right on** the dot. I'm **right on** the mark.
That way_____. "That way it doesn't bounce on ya."
Lift up your end.
It comes out looking like this.
Square it up. (cut it square, using a try square)
_____ the wrong way.
There's a lot of **PLAY / FLEX** in this.
Center it.
Stand back and take a look.
Can you read that? (reading number on a dial or tape)
Don't **mess with** me.
You're fired!
Good job.

*I.V.I.: Inmate Vocational Instructor
*NSE: Non-speaker of English
*TISTP: Transitional Independent-Study Trades Program

PROPOSAL: Transitional Independent-Study Trades Program

Description:

Semi-independent study program to transition interested ESL students more rapidly into the Building Trades program. Preliminary study will begin in the ESL classroom and in the pods. Students are then tested, and moved into once-a-week classes in a building trades classroom with I.V.I.* Students are not paid while in the TISTP* program. Upon completion of this portion, qualified students will be transitioned into the designated construction yard to work two-to-one with an English-speaking lead carpenter. Sheltered learning may or may not be needed still at this point. Job-seeking and pre-release skills are not addressed in this program.

Goals:

1. To increase the number of NSE* inmate workers to up to 12 at a time.
2. To prepare NSE inmates for succussful entry into the Roofer/Laborer and eventually into the Carpenter job market upon their release.
3. To prepare students to work successfully in English.
4. To teach skills in job search and interviewing (not covered here).
5. To upgrade math skills for effective use in carpentry.

Content:

Content taught in the sheltered classroom will be determined by the I.V.I. and vocational staff.

In the ESL classroom, no use of tools is taught. Names of tools, materials and specification identification is the content of the handbook, and will only be reviewed quickly for

identification and pronunciation. Essential phrases are to be taught. Classroom testing will only determine whether the student can correctly identify tools and safety practices. Learning this material must not impact upon the standard ESL curriculum. The only exceptions to this are learning specific verbs and essential mathematics. All math taught in the ESL classroom, though general, should have direct application to construction problems posed by the I.V.I. Thorough understanding of math will result in a more productive worker.

IT IS THE RESPONSIBILITY OF THE STUDENT TO MEMORIZE THIS MATERIAL INDEPENDENTLY OF THE ESL TEACHER.

Student qualifications:

No student will be admitted to the program who has a violent crime or a record of escape. An 8th grade education is required, or the ability to read and understand the text, determined by I.V.I. and ESL teachers. Beginner English students showing particular interest may attend these classes UP TO THE POINT OF GOING TO THE CONSTRUCTION YARD. AT SUCH TIME AS THEY ARE ENROLLED IN INTERMEDIATE ESL, THEY MAY RE-ENROLL AND COMPLETE THE FULL COURSE.

Sign-up protocol:

The pilot program should be ready to be taught in the fall semester.

At such time as the places in the class are filled, a waiting list will be made.

Because current ESL students are putting forth the effort to learn English, all existing ESL classes should have advance sign-up available to them as a reward for students' efforts.

List of names will be submitted to Classifications to determine security eligibility. Students from the waiting list will replace those eliminated in the process.

Method:

Step One: Beginner and intermediate ESL curricula will accomodate this learning by integrating minimal phrases, vocabulary and grammar.

Step Two: In addition to the text, students will study independently from a handbook prepared by the I.V.I. and the ESL staff, and approved by the voc staff. Study of this material will be **in addition to** regular ESL class assignments, which **must not be neglected**, in order to stay in this program. (A mentor may be assigned to these students in the pods.)

Step Three: At regular intervals, ESL staff will test students' knowledge of this material and advance qualified students AS A GROUP into the sheltered vocational classroom. No one may enroll once the classroom teaching has begun.

Step Four: While still continuing their full-time student status, intermediate ESL students will be allowed to move to the construction yard training at the beginning of the Power Tool training portion. (See "Student Qualifications" above.) Moving to full-time job status in voc training will be determined on an individual basis by the staff vocational trainers, according to the student's adaptation to working in an English-speaking environment. At this time the student has the option to discontinue ESL studies.

Further considerations:

1. Until the program fulfills the needs of the Voc department, ESL teachers will occasionally observe in the sheltered classroom to identify grammar or phraseology lacking in ESL teaching.

2. ESL teachers will meet with I.V.I. and voc. staff for the above purposes as needed.

3. Through this pilot program, students may be polled for their input on how the program is working for them.

4. Beginner and intermediate ESL will need to incorporate math skills into classroom time (fractions and basic math functions).

5. Frequent review and analysis by the voc staff and I.V.I. of the handbook content are necessary until such time as it is deemed complete.

6. One semester has been designated for this program.

7. Bound copies of the handbook will be provided by Vocational Education for students and ESL teachers.

8. The I.V.I. and ESL teacher will work together preparing the curriculum to be taught in the sheltered voc classroom.

9. (Optional) The contract will be signed by the student upon enrollment.

TRANSITIONAL INDEPENDENT-STUDY TRADES PROGRAM

Student Contract

I agree to study and learn the assigned TISTP lessons at home.
I agree to study, do homework, and continue my best efforts in my ESL class or other work.
If I am an ESL student, I understand I will be paid ONLY as a full-time ESL student.

READ, AND CHECK ONE:

_____ A. I am a full-time, paid Beginner ESL student. I understand I can attend the sheltered vocational training classes. I will not be able to attend classes in the construction yard. When I am advanced to Intermediate ESL, I may re-enroll and take the full TISTP program.

_____ B. I am a full-time, paid Intermediate ESL student. I may attend the sheltered vocational training classes. When I have passed all tests, I may take the sheltered hands-on training in the construction yard.

_____C. I am not an ESL student, but have sufficient English to understand and function in the vocational class and construction yard environment. I will not receive pay for this program.

I have read and understand the above, and I agree to the terms.

Name_____ Date_____

ID Number_____Handbook #_____

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Introduction to the Vocational Handbook

Often inmates come to prison with little formal education, and may be essentially illiterate in their first language.

In order for this process to not overwhelm the ESL student, time and care should be given to build confidence in materials and tool knowledge, safety procedures, and facility with construction phraseology. Aim for rapid and slurred speech conprehension.

The initial material on safety was simplified and paraphrased in the handbook. A standard text may be too wordy for ESL standards. Tools, however, are tangible and much less esoteric, and can be understood more easily from illustrations.

The following handbook was patterened on a standard vocational construction text. Sources are named at the end of this paper.

Adjust your own Table of Contents to reflect your appropriate pages. It is strongly suggested that the order of presentation of material be maintained for safety purposes, and for orderly learning. The dates represent a fictitious calendar, but give the time frames for teaching, based on beginning a semester in September. Again, adjust your own dates.

In the Table of Contents, the first column of dates indicates when certain items will be taught in the ESL classroom, and the second when it will be taught in the voc classroom. ESL classes always predate Voc class coverage.

Handbook for the

TRANSITIONAL INDEPENDENT-STUDY TRADES PROGRAM
(CONSTRUCTION)

This material is part of a textbook. Many people will use this after you.
Please do not write in it.
Please take good care of it.
Please return it to your teacher
when you are finished with the class.

GOOD LUCK!

Handbook number.....

SAFETY PROCEDURES

(TO BE READ OUT LOUD TO THE INSTRUCTOR)

1. No smoking in the carpentry shop.
2. (Read hazardous materials chart. Be able to tell about it in Spanish or English.)
3. Do not use power tools until safety tests are complete.
4. Do not wear loose clothing when operating power tools.
5. Always wear safety glasses when operating power tools.
6. (Read fire evacuation chart. Be able to explain it in Spanish or English.)
7. Unplug power equipment when changing blades.
8. Do not talk to a person who is operating power equipment.
9. Be sure to wear a dust mask when machining pressure-treated lumber.

TABLE OF CONTENTS AND CLASS SCHEDULE

ITEM	PAGE NUMBER	DATES TAUGHT: ESL	VOC
SAFETY	102-107	10/2-6	10/13
HAND TOOLS	109 -121	10/9-20	10/20,27
		ESL TEST 1	
CIRCULAR SAW	122,123	10/23	11/3
TABLE SAW	128 - 131	10/23	11/3
RADIAL-ARM SAW	141 -142	10/30	11/3
POWER MITER SAW	152-153	10/30	11/10
		ESL TEST 2	
PORTABLE ELECTRIC DRILL	157-159	11/6	11/17
PNEUMATIC NAILERS AND STAPLERS	164, 165,167, 170,171, 172	11/6	11/17
ROUTER	174-175	11/13	11/24
SABER SAW	182-183	11/13	11/24
PORTABLE SANDERS	186-189	11/13	11/24
		ESL TEST 3	
JOINTERS, PLANERS AND ELECTRIC PLANES	190-191	11/20	12/1
SCAFFOLDS AND LADDERS	205, 206, 208, 209, 211, 212	11/27	12/8
		ESL TEST 4	
GLOSSARY AND TRADE TIPS	660-695		

Page 1
(See text pages 102 & 103)

SAFETY

THERE ARE TWO MAIN REASONS WHY SAFETY IS IMPORTANT:

1. A natural concern for people's welfare
2. Injuries cost employers time and money

Safety is of prime importance when you operate any tool.
Listen to WARNINGS and CAUTIONS.
Use common sense.
Understand basic safety rules. REALLY LEARN these rules - don't just read them.
Make safety a habit as you learn and work.

WHY IS CONSTRUCTION HAZARDOUS?

Workers use many different tools.
Construction is done in many different working conditions. There could be rain, snow or ice on the construction site. The weather may be very hot. These conditions are difficult to control.
YOU must take responsibility for your safety and the safety of others.

WHAT IS THE MOST COMMON INJURY?

Back injury from lifting.

WHAT IS THE MOST COMMON ACCIDENT?

Falling from a high place: a roof, skylight, stairwell, or ladder.

WHO GETS HURT THE MOST?

Young workers: they don't have enough experience.
New workers: they don't know the job site.

WHICH WILL YOU BE?

PAGE 2
(See text page 103)

HANDLING MATERIALS SAFELY:

As often as possible, use a machine ot lift!!! It saves your back and it saves your energy.

Be careful WHERE you move the materials to!

Be careful HOW you move the materials.

HOW TO LIFT PROPERLY:

1. Look at the picture on page 103.
2. Point to the knees.
3. Point to the back.
4. Tell the PROPER way to lift.
5. Tell the IMPROPER way to lift.

Remember:

Lift with your knees, not with your back!
Bend your knees, keep your back straight!

HOW TO CARRY MATERIALS:

1. Carry long pieces of material with 2 workers.
2. Be careful - if materials are wet or frosty, they can be slippery.
3. Use machinery to move materials if possible.

HOW TO CUT MATERIALS:

1. Support the wood when you are cutting it.
2. Use clamps to hold material securely.
3. Don't let the wood slip.

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Practice Good Housekeeping!

1. Stack materials straight and neatly.
2. Keep tools and materials off walkways.
3. Rubbish and scraps are fire hazards - dispose of them every day.
4. Remove nails that are sticking out of wood.
5. If you are working on a high place, don't let your tools and materials fall on other workers.

Page 3
(See text pages 103, 104 & 105)

HEALTH HAZARDS

BAD STUFF!!!

	CHEMICALS	DUST	CHEMICAL FUMES	LOUD NOISES, EXPLOSIONS
nose		X	X	
eyes	X	X	X	
ears				X
skin	X			

Some chemicals may take a long time to hurt you. But after a long time, your health may be damaged!! ***Wear protection!!!***

MATCH THE PROTECTORS TO THE BODY PART:

	hard hat
ears	dust mask
nose	coverall
eyes	safety shoes, boots
skin	respirator
head	work gloves
feet	protective clothing
	safety glasses, goggles
	ear plugs

DAMAGE TO JOINTS:

If you do one action over and over, it can hurt the joints in your body. For example, if you were a mason, your knees would hurt from kneeling. If you were a carpenter, your wrist and elbow would hurt from hammering. Listen to your body - if it hurts, change your motion for a while.

Page 4
(See text pages 104 & 105)

POWER TOOL SAFETY:

DANGERS and REALLY BAD STUFF!!!

KICKBACK: 1. When cutting with a power tool, the wood is thrown back at you.
2. When cutting wood, the electric saw is thrown back at you

SAFETY RULES:
1. Don't force the wood!
2. Shut off power, THEN find the problem.
3. "Feed" the wood into the machine straight.
4. Don't stand behind the blade.

SUPER BAD STUFF!!!!

ELECTRIC SHOCK: Electricity is used on ALL construction sites. Electricity can kill or injure FAST.

DON'T BE PART OF THE CIRCUIT!

Page 5
(See text pages 104 & 105)

CONDUCTORS carry electricity. Some are: water, power tools, hand tools, wet clothes, puddles, wet wood

GFCI ***(GROUND FAULT CIRCUIT INTERRUPTERS)*** is a circuit breaker that shuts off power immediately if an electric line is cut.

MAKE SURE ALL TOOLS YOU USE ARE ***GROUNDED!*** READ THEIR LABELS!!

PRACTICE GOOD HOUSEKEEPING!!

1. Stack all materials straight and neat.
2. Keep walkways clear of tools, materials and debris.
3. Scraps and rubbish can cause fires. Get rid of them every day!
4. Remove nails sticking out of the wood.
5. If you are working above someone else, keep tools and materials where they will not fall on them.

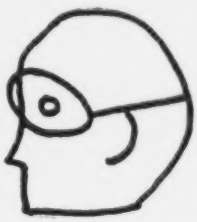
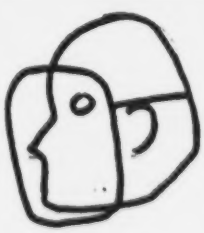
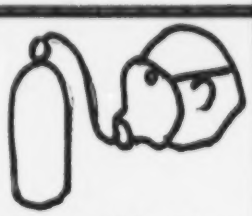
KNOW ALL THE "GENERAL SAFETY" RULES ON PAGE 106.

KNOW ALL THE "GENERAL SAFETY RULES FOR POWER TOOLS" ON PAGE 107.

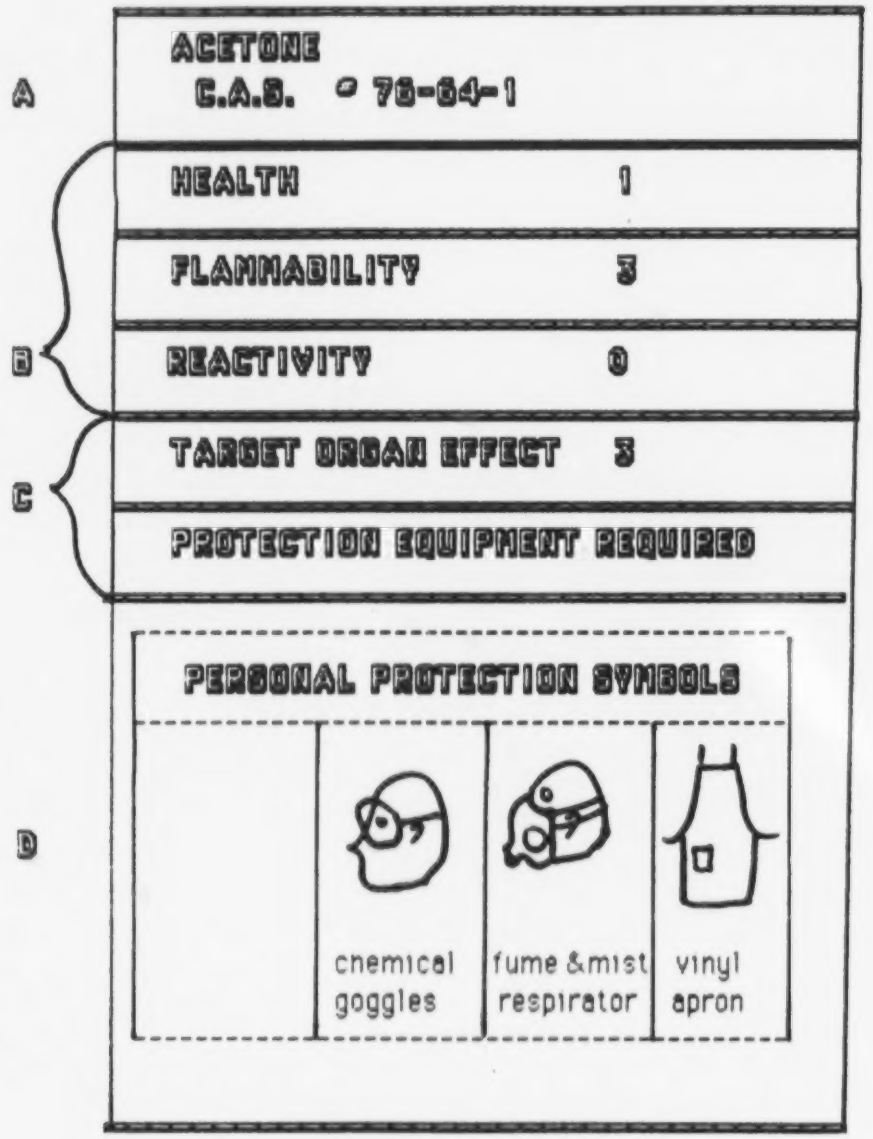
HAZARD INDEX RATINGS

Hazard Rating	Health	Flammability	Reactivity	Body Parts Affected
4 SEVERE	Deadly: Even slightest exposure endangers life. Use ONLY specialized clothing when using this material.	Flash point below 73 F. Very flammable, volatile or explosive depending on its form. Use extreme caution when storing or handling this material.	May detonate: Easy to detonate or explode at normal temperatures and pressures. If exposed to heat or fire, evacuate area.	Severe burning effect body tissue. Toxic effect on blood, kidneys and nervous system. Skin surface must not be exposed. Use protective clothing.
3 SEVERE	Extreme danger: Serious injury will result if exposed to it. Do not expose any body surface. Full protective actions must be taken.	Flash point below 100 F. Flammable volatile or explosive under almost normal temperature conditions. Use great caution in handling these materials.	Explosive substance capable of detonation by heat, shock or water. Control from behind explosion resistant barriers.	Highly toxic and irritating to skin lungs, eyes, nose & digestive system. Wear full protective clothing. Do not expose skin to this material.
2 MODERATE	Dangerous: exposure to this substance is hazardous to health. Protective measures are needed.	Flash point below 200 F. Hot temperatures may ignite this substance. Use caution procedures when handling.	Unstable: violent chemical changes possible at normal or elevated temperature, pressure or if mixed with water.	Toxic: irritant to nasal passages, skin, lungs, kidneys, liver and & respiratory organs. Enter with self-contained breathing aparatus.
1 SLIGHT	Slight hazard: irritation or minor injury may result from exposure. Use protective	Flash point over 200 F. Must be preheated to ignite. Most combustible solids are in this	Normally stable. May become unstable at higher temperatures & pressures or when mixed with water. Caution!	Irritating vapor or fumes in contact with skin, eyes or mucous membranes. Use self-contained breathing apara-
0 MINIMAL	No hazard: exposure offers no significant health hazard.	Will not burn.	Stable: remains stable when exposed to heat, water, pressure	Slight irritant: Protect eyes, nose, skin.

PERSONAL PROTECTION

EYE PROTECTION	RESPIRATION PROTECTION	FOOT PROTECTION	HAND PROTECTION
 safety glasses	half mask	Feet covered completely. No sneakers or sandals.	PVC/Latex gloves
chemical goggles	fume & mist respirator	work boots	gauntlet gloves
 face shield	full face respirator	neoprene boots	neoprene gloves
Do not wear lens with chemicals.	 self-contained breathing aparatus	PVC/nitrile boots	PVC/nitrile gloves

CHEMICAL HAZARD IDENTIFICATION CHART



LABELING

A. Identification of chemical
B. Acute health, flammability and reactivity ratings
C. Chronic health hazard information
D. Personal protection equipment designation

FIRE HAZARD IDENTIFICATION SYSTEM

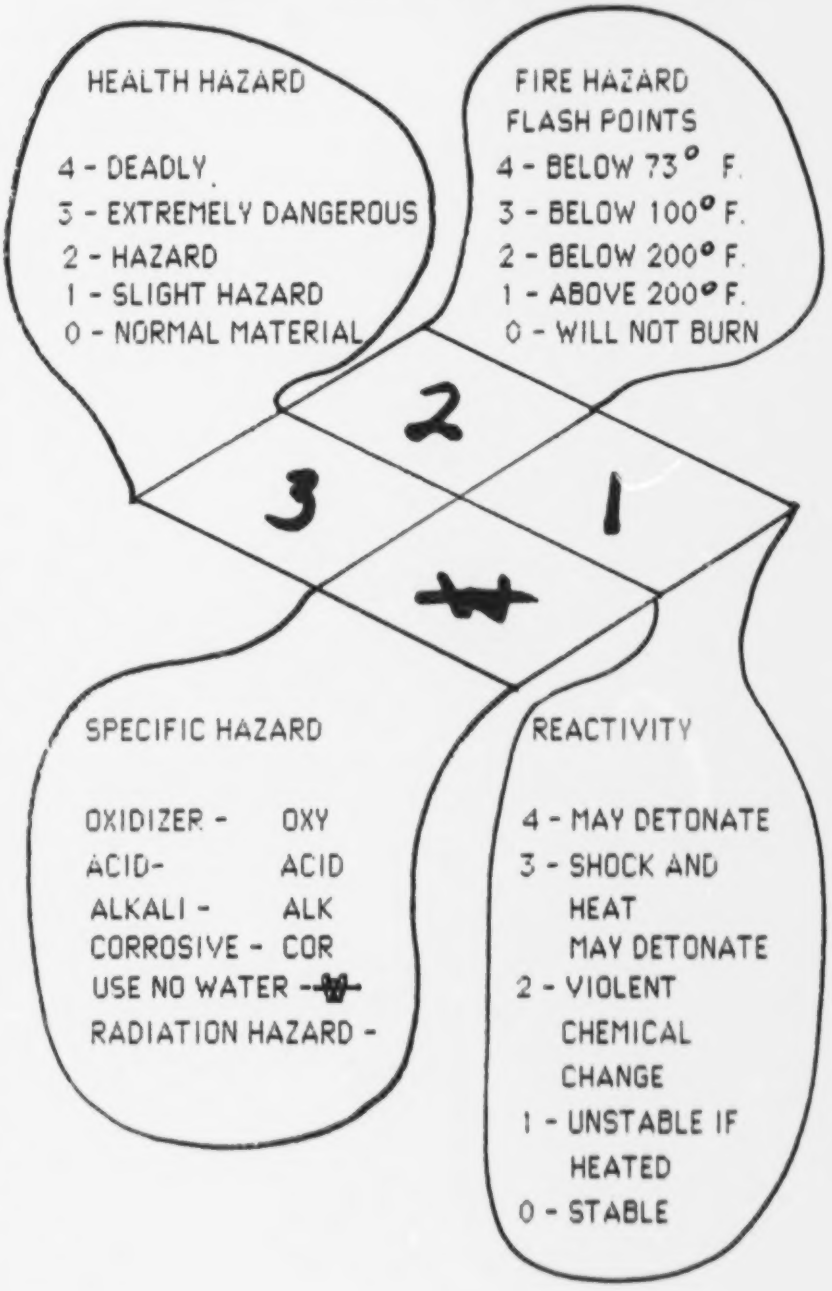
PROTECTIVE CLOTHING

vinyl apron

lab/shop coat

chemical splash suit

full air line protective suit



CREDITS AND SUGGESTED TEXTBOOKS:

Carpentry and Building Construction

Authors: John L. Feirer

Gilbert R. Hutchings

Mark D. Feirer

Publisher: Glencoe
MacMillan/ McGraw-Hill, 1993

Carpentry: Second Edition

Author: Leonard Koel

Publisher: American Technical Publishers, 1991